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Women and agro-processing in Africa : a case study of the state of women in fish smoking in the central region of Ghana

E.L. Okorley and J.A. Kwarten

1 Despite the role of women in the production, processing and marketing of agricultural goods in many countries in Africa, agricultural information and production resources are not reaching and benefiting them in the food security chain.

2 Recent reports in Africa shows that the productivity of agriculture on the continent has not satisfied the requirement for food fibre and other raw materials despite efforts by governments to develop agriculture. Many studies in Africa show that the poor achievement of the agricultural goals on the continent in term of efficiency, sustainability and equity is due to the predominant practice of directing training and resources to men only (FAO, 1993). This realization has brought about a growing concern about gender issues in recent times. The focus of many African governments now is to increase the productivity of the Agricultural Sector by improving the condition of women especially those in the rural and semi-urban areas. In Ghana's Medium Term Agricultural Development Strategy (MTADS) and the Vision 2020 Development Plan, the strategies are : 1) bring services physically closer to women ; 2) involve women in the formation and management of programmes affecting them ; 3) make women (individually of group) the contact point in the delivery of services directly to the beneficiaries and to receive feedback (Ministry of Food an Agriculture, 1990).

3 With the present trend of high population growth (about 3% in Ghana) which far exceeds food production (about 2% in Ghana) the role of women in food production, processing and marketing has become more important in ensuring that people on the continent are not underfed and do not suffer from malnutrition. With respect to quality protein needs the two main sources available in Ghana and many African countries are livestock and

fish. The productivity of the livestock industry in Ghana is woefully inadequate. This is attributed to inconsistent government policies concerning the industry, high cost and sometimes unavailability of livestock feed, poor management practices, and disease outbreak among others. In Ghana like many of the African countries, the popular option is fish. Fish is relatively available throughout the year and its varying cost falls within the economic means of most family budget.

4 In Ghana, although fishing is done on continuous basis it is noticeable that bumper harvest occurs significantly between the months of July and September. To ensure availability of fish throughout the year, especially during the lean season, it is essential to preserve fish in appreciable quantities to remain in good condition until use is required.

5 It presupposes that if a country such as Ghana is committed to solving the perennial problem of protein malnutrition, then the issues of high post-harvest losses in fisheries should not be mentioned. Ironically, several FAO reports on Africa have indicated high post-harvest losses in fisheries over the years. For instance, heavy post-harvest losses (as high as 40%) were reported in the mid-1970s in Nigerian part of Lake Chad. However, this was reduced to about 10% after processing techniques and transportation on the lake was improved (FAO, 1993). A recent report in Ghana indicated that about 100 000 tons of fish go to waste annually through bad handling and non-hygienic treatment, as well as absence of improved technologies for preservation and processing (Mensah, 1997).

6 Currently there is a growing concern that priority should be given to the food processing industry in Ghana. The fact is that export earnings from this industry is substantial. It is the belief of many, that if women in Africa are given the opportunity, they will contribute substantially in the development of the food processing industry and solve the persistent problem of malnutrition and poverty in the rural and semi-urban communities.

7 The purpose of the study therefore was to assess the state of small agribusiness women in fish smoking in the Central Region of Ghana and possible ways that can be adopted to improve their condition. The specific objectives of the study were :

- to describe the socio-economic characteristics of women processing fish in the Central Region of Ghana in terms of age, education al level, number of dependants, capital needed for the business, amount of money spent on food ;
- to establish the current status of agricultural extension education service provided to women in fish processing in the Central Region of Ghana ;
- to identify factors that constrain the productivity of small agribusiness women in fish smoking in the Central Region of Ghana ;
- to develop a conceptual model for facilitating effective linkages between agricultural extension services and women engaged in fish processing in the Central Region.

8 The study in addition sought to determine if any relationship existed among age, educational level and full-time status of the fish processors. The hypotheses were as follows :

- there is no significant relationship between age of the fish processors and their full-time/ part-time status in fish processing ;
- there is no significant relationship between level of education of the fish processors and their full-time/part-time status in fish processing ;
- there is no significant relationship between age of the fish processors and their level of education.

9 As it was difficult to find the respondents at home, interviews had to be done through repeated visits especially at odd-times. Since needs assessment of this nature is area-specific and role-specific, no attempt was made to generalise the findings of this.

10 A descriptive-correlation al survey design was adopted for the study. This study systematically investigated the state of women in fish smoking as small-scale businesses in selected fishing towns along the coastal strip of the Central Region of Ghana. Based on the scale and the extent of fishing, five districts of the Central Region were selected for the study, namely Komenda-Edina-Eguafo-Abrem (KEEA), Cape Coast, Mfantsiman, Gomoa and Ewutu-Efutu-Senya Districts. Using the same criterion, important fishing towns within the Districts were selected by the help of the District Fisheries and Agricultural Extension Departments personnel.

11 The women fish processors were identified in each of the towns by the help of personnel from the Department of Fisheries and Agricultural Extension. A list of all the names of the small-scale women fish processors was compiled and a table of random numbers was used to select 150 of them that were interviewed. Through consultations with the District Agricultural Extension and Fisheries Departments, key informants (5-10) who were themselves fish processors were identified and selected from each of the towns for group discussions. Among the key informants were leaders of co-operatives and groups, representatives of fish processors and active fish processors as judged by the Fisheries Department. In addition, all regional and district Heads of Department of Women in Agricultural Development (WIAD), Fisheries and Agricultural Extension (total of 13) formed part of the study sample.

12 The study was conducted in the Central Region of Ghana. Geographically, the Central Region is bounded on the south by the Atlantic Ocean, North-west by Ashanti Region, South-east by Greater Accra and West by the Western Region. It covers a total land area of approximately 9 826 sq km, with about 3 144 sq km under cultivation. It has a population of about 1 142 000 people with about 690000 being in agriculture. The main occupation of the people is farming and fishing with few of them engaged in industrial and commercial activities. The Central Region occupies an important position so far as marine fish production is concerned. It has a coastline of about one hundred and fifty kilometres (150 km) and produces a third of the total marine fish production in this country (out of the four coastal regions). Information gathered from the 1984 population data of Ghana showed that about 51 % of farmers in the Region are women. Most of these women are engaged in agro-processing, especially fish processing. There are also a great number of them who are engaged in marketing of agricultural produce.

13 Three content-validated questionnaires were developed for the study. Content validation was accomplished using experts from the Fisheries Department, the University of Cape Coast and the Department of Agricultural Extension Services, in Central Region. The research instruments were pre-tested on few women fish processors in the Sekondi Municipality in the Western Region of Ghana. Statistical validation on the likert-scale type of questions was based on the Cronbach's alpha reliability test. The reliability co-efficient for the questionnaires for the fish processors ranged between 0,62 and 0,97. The semi-structured interview schedules were used to collect the data from the fish processors after the initial appraisal of the study area and pre-testing of the instruments. The service of a well-trained enumerator was employed in this exercise. The group discussions were organised by the help of the District Fisheries Department, with the

researcher playing the role of a facilitator. Participatory approach was adopted to generate very important qualitative information.

14 The data analysis was done using quantitative and qualitative approaches. The Statistical Package for Social Science (SPSS Software) was used for the quantitative analysis. Basically, descriptive statistics was used in describing and summarising the nominal data and other characteristics of the subjects after the initial editing and coding of the responses were done. This involved the use of means, percentages, frequencies, and standard deviations. Associations between the bivariates : age and full-time/part-time status, level of education and full-time status, age and education were also assessed. All differences were tested at p< 05.

15 This portion specifically discusses the results of the personal characteristics of the fish processors in the study. The subjects of the study were predominantly older women. About two-thirds (74%) of them were more than fort Y (40) years of age and the rest were between 20-40 years old. The average age was 49,7 years. Most of the women (80,7%) were illiterates. Nearly nine percent (8,7%) had had primary level education and 10% had attained elementary level education. Only one respondent, representing 0,7%, had gone beyond the elementary level to a vocational school. Ali the women had dependants.

16 Majority of them (56,7%) had four to seven de pendants living with them. The maximum number of dependants recorded was eleven. The average number of de pendants recorded was six.

Table 1. Socio-economic Characteristics of women Fish Processors in the Coastal Districts of the Central Region.

Percentage of respondents reporting characteristics						
Charasteristics and categories	KEEA (n=30)	Cape Coast (n=30)	Mfantsiman (n=30)	Gomoa (n=30)	E-E-S (n=30)	Total (n=150)
Uses Family labour in my work	43.3	40.00	13.3	6.7	53.3	31.3
Uses hired labour in my work	20.0	6.7	-	6.7	26.7	12.2
Uses both hired and family labour	36.7	53.3	86.7	86.7	20.0	49.3
Source of Capital						
-self/family	6.6	56.7	36.7	80.0	6.7	49.3
-money lenders	6.7	26.7	6.7	3.3	40.0	16.7
-bank	16.7	10.0	26.7	6.7	13.3	13.3
-friends	10.0	-	-	10.0	33.4	10.7

-susu	-	6.7	30.0	-	6.7	8.7
Amount of money spent on food per week (in thousand of cedis)						
¢420-40	70.0	73.3	50.0	23.3	13.3	46.0
¢441-60	23.3	20.0	43.0	56.7	6.7	30.0
¢461-80	3.3	-	-	16.7	66.7	17.3
¢481-100	3.3	6.7	6.7	3.3	13.3	6.7
Capital required for business (in millions of cedis)						
Below ¢40,5	23.3	10.0	6.7	-	-	8.0
¢40,5–41	60.0	43.3	93.3	56.7	46.7	60.0
¢42-43	13.3	26.7	-	36.7	53.3	26.0
¢44-45	3.3	20.0	-	3.3	-	5.3
Above ¢45	-	-	-	3.3	-	0.7

KEEA= Komenda-Edina Eguafo-Abrem District ; EES = Ewutu-Efutu-Senya District
Source : *Survey data 1998*

17 With reference to sources of capital for their processing enterprise, the responses were more in favour of personal savings (49.3%). Only a few women (14.7%) indicated that their capital were from banks. These people were mainly individuals in co-operatives. The low access to bank loans in the study area is relatively higher than what was recorded from places like Gambia, Kenya and Bangladesh where data gathered from 800 randomly selected households found only 2.8% of women as borrowers of formal credit (Hossain Afsar, 1989). The results also showed that the women needed capital ranging from ¢ 300,000-¢10,000,000 (US$120-$4000). About 60% gave the range of ¢500,000-¢1,000,000 (US $200-$400). The average capital needed by women fish processors was estimated to be about ¢1,400,000(US $560)

18 Of the 150 women, 76% spent between ¢20,000.00 - ¢60,000.00 (US$8 - $24) weekly to purchase food for a family of six persons. Since it is believed that a significant portion of family income is spent on food, and coupled with the present economic situation in Ghana, any family that spends an average amount of about ¢50,000.00 (US$20) on six dependants for food per week is leaving under great economic stress. Only 6.7% of the women spent above ¢80,000.00 (US$32) on food per week.

Table 2. Correlation coefficients for selected characteristics of women fish processors in the Central Region of Ghana. (N=150)

Characteristics	Correlation Matrix		
	Age	Education	Fulltime/part-time status
Age	1.00		
Education	-0.44	1.00	
Fulltime Status	0.28 *	-0.37 *	1.00

* Means significant at p<0.01
Source : *Survey data 1998*

19 Age and level of education were found to correlate with full-time status of the fish processors. Age was significantly associated with full-time status (r = .28) even though the coefficient of correlation was small ; thus, the older the woman was, the more probable she was a full-time fish processor. Educational level on the other hand was negatively and significantly related to full-time status (r =-.37) and age (r =-.44) of the fish processors. This gives the indication that the higher the level of education of a particular fish processors, the more likely she was to be young and the less likely to be a full-time fish processors. The relatively better educated, were more likely to be young and engaged in other income generating jobs which take some of their time off the fish processing business.

20 The current status of extension education to fish processors was assessed in terms of the role and present challenges of MOFA and for that matter, the departments of WIAD, Fisheries and Agricultural Extension in fish processing in the region. It also assessed extension contact, and sources of information to fish processors.

21 When the heads of the departments at the Regional and District levels were asked about whether they have any role or function to play as far as fish processing is concerned, there was 100% yes response. The duties given by the three department overlapped, but the aggregate summary of the duties or functions of the departments together were as follows :

- development of improved skills and knowledge on fish processing (including some research) ;
- transfer of improved skills and knowledge on fish processing ;
- organizing women into groups or co-operatives and assisting them to acquire financial support from banks ;
- monitoring the payment of loans ;
- training of Frontline Staff (FLSs) on improved skills and knowledge on fish processing ;
- training of fish processors on proper fish handling and environmental sanitation ;
- produces fish processing training materials (e.g. training guides, folders, etc.) for fish processors ;

- training fish processors on keeping records.

22 When the heads of the departments were contacted on their present challenges as regards to fish processing in the region, the following were their responses :

- to ensure that as many women as possible are reached with extension messages on fish processing ;
- to organize women into groups and co-operatives in every village and town ;
- to conscientize fish processors on environmental sanitation and hygienic fish processing ;
- to encourage as man y women as possible to use the Chorkor oven (Chorkor Smoker) ;
- to open the ex port market to progressive fish processors ;
- to encourage fish processors to put up sheds to protect their ovens and their health ;
- to encourage fish processing groups or co-operatives to establish woodlot farms for their fuel wood supply.

23 The extent to which these aims and aspirations have been achieved or is being achieved is the objective of this section.

Table 3. Extension Contact and Training as Reported by fish Processors (N= 150)

Parameters	Freq.	%	Cum. %
Women receiving extension contact	15	10.0	10.0
Women not receiving extension contact	35	90.0	100.0
Women who have had some extension training before	9	6.0	6.0
Women who have not had some extension training before	141	94.0	100.0
Other sources of information other than The Agric. Extension Department			
-other processors	116	77.3	77.3
- Fisheries Department	32	21.3	98.6
- Self (nowhere)	2	1.4	100.0
Women who wanted to have extension contact	130	86.7	86.7
Women who were not interested in extension	2	1.3	88.0
Not applicable	18	12.0	100.0
Women who were aware of extension agent in their area	32	21.3	21.3
Women who were not aware of extension agent in their area	118	78.7	100.0

Source : *Survey data 1998*

24 The study revealed that only 10% of the subjects of the study were receiving extension contact, and only 6% claimed to have actually had some training in fish processing from extension agents. Many of the women (77.3%) were getting their information from other fish processors. According to 21.3% of them, their source of information was from the Department of Fisheries. In the group discussions, it was also established that extension agents were not visiting fish processors as often as they should. Fish processors, however, expressed much desire to have extension contact. It was therefore, not surprising that 86.7% of respondents expressed their wish to have extension contact even though only 21.3% of them were aware of having extension agents in their community.

25 The extent to which a farmer is aware of and in contact with MOFA and its change agents (the FLSs) is usually a general indicator of the level of success of that farmer. From the analysis so far, the results imply that extension work with fish processors in the Central Region of Ghana is ineffective. It, therefore, did not come as a surprise when the heads of department of Agricultural Extension, WIAD and Fisheries gave low success rates of their activities with fish processors.

26 When the heads of the departments were asked to estimate the extent to which they had achieved their aims and objectives with respect to fish processing in the region, they gave the following estimates :

- Agricultural Extension 31 - 40%
- WIAD 21 - 30%
- Fisheries 21 - 30%

27 The heads, however, gave some reasons which might account for the relatively low performance. The most important ones were :

- inadequate number of staff to reach fish processors ;
- financial constraints (inadequate budgetary allocation from government) ;
- inadequate material support (input and training materials needed to support the technologies) ;
- conservativeness of fish processors ;
- inadequate and or untimely credit for fish processors making adoption of some technologies
- difficult (eg. use of Chorkor smoker) ;
- mistrust and suspicion among fish processors making activities of co-operatives ineffective ;
- unco-ordinated activities of Government agencies (WIAD, Agricultural Extension and Fisheries), and some NGOs (e.g. 31st December Womens Movement, World Vision, etc.)

28 The heads stressed some of the constraints. mentioned very much. For example, they mentioned the problem of funds and personnel as critical. For instance, there were only two technical personnel responsible for all WIAD activities in the whole Central Region. There were no WIAD representatives or development officers at the district level.

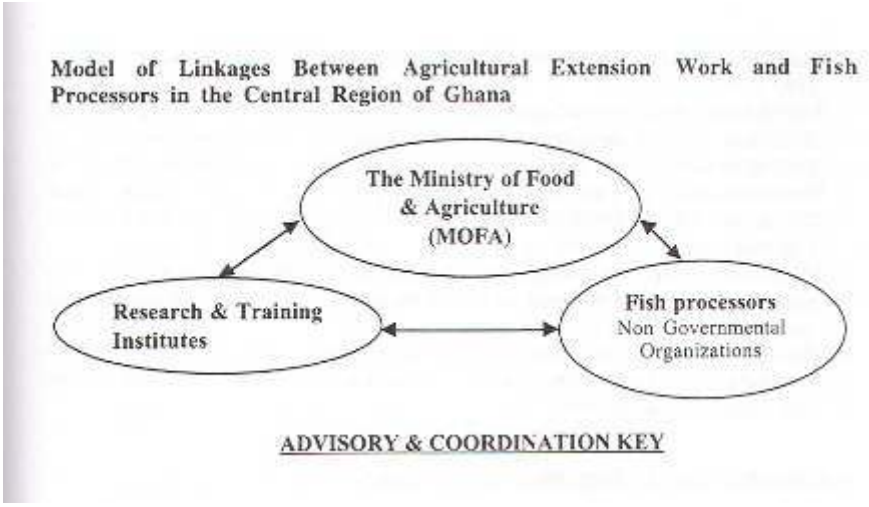
29 The findings revealed that inadequate capital was the most crucial limiting factor. Other important constraining factors which came out were the use of dynamites in fishing and high cost of inputs (eg. wiremesh, fuel wood) and transportation.

30 Based on the results of the group discussions and the responses from the heads of departments of WIAD, Fisheries and Agricultural Extension, a point can be made that even though some linkages exist among fish processors, government and non-governmental organisations, the effectiveness of the linkages are poor. This has necessitated the need to develop a conceptual model that is pragmatic enough to ensure

effectiveness in the transfer of technologies to women in fish processing in the Central Region of Ghana.

31 The reasons which were advanced for the development of the model are :

- linkage between extension agents and fish processors is weak as indicated in the results ;
- fish processors are not receiving enough and effective extension services as can be seen in the results ;
- there are no proper linkages and therefore, co-ordination among the MOFA Departments (WIAD, Fisheries and Agricultural Extension) working with fish processors as expressed by the Heads of the Departments ;
- there are no proper linkages and therefore, co-ordination between NGOs and MOFA Departments working with fish processors as observed in the group discussions with the fish processors ;
- there are no proper monitoring and evaluation of FLSs and fish processor to determine the impact of the extension services on the fish processing industry since no data could be obtained from the Heads of Departments of MOFA at both the District and Regional levels to that effect.



32 Fish processors in the Central Region of Ghana need Agricultural Extension assistance. The Ministry of Food and Agriculture (MOFA) has a role to play but it cannot do it al one. Where NGOs and/or Training and Research institutions are interested and are capable of assisting fish processors, they should be encouraged to do so. Here, MOFA can play an advisory role. This can be in terms of training, advising, and exchange of ideas and monitoring.

- The main players in addressing the training needs of fish processors in the Central Region of Ghana are the Ministry of Food and Agriculture (MOFA), Training and Research institutions and some Non-governmental Organisations (NGOs).
- These main players (MOFA, NGOs, and the Training and Research Institutes) should form strong linkages with fish processors and have direct contact with them.
- There should be a direct co-ordination and advisory services among MOFA, NGOs and Training and Research Institutions to ensure better monitoring and evaluation, and training of personnel where necessary.
- There should be a WIAD representative (Development Officer) at every district MOFA Administration.

- The WIAD Directorate or the Development officer at each District should be the sole co-ordinator on ail issues and activities which are biased towards women.
- All NGOS and Training and Research Institutions working or intend to with fish processors should contact the District MOFA. Otherwise, the MOFA should device a mechanism to identify ail organisations working with fish processors to document what they are doing and how they are doing it.
- All NGOs and Training and Research Institutions which have any programme, technology or development package for fish processors must liaise with MOFA and through WIAD to ensure that their programmes are tested and adapted to the needs of fish processors, and operating within MOFA's development framework for fish , processors in Ghana.
- MOFA must create the enabling environment for NGOs, and Training and Research Institutions to supplement their effort in addressing the needs of fish processors by playing an advisory role through monitoring and evaluation, and training of staff of the organisations who may not have the competence for the job. Subject Matter Specialists (SMSs) from MOFA should be made to give training to the staff of these organisations.
- NGOs and Training and Research Institutes working with fish processors in a particular area should involved the extension agents under whose operation al area they work.
- Problems, solutions, suggestions, ideas or feedbacks from fish processors to stakeholders (NGOs, Training and Research institutions and MOFA) must follow the same channels/ linkages.

33 The benefits that could be derived from this model are as follows :

- It would ensure a systematic and well planned programme for fish processors because all stakeholders would be aware of each others programme and activities and hence the issue of effort duplication would be minimized.
- It would ensure that programmes and activities of all interested groups in the fish processing industry in the Central Region are co-ordinated and executed ;
- It would ensure that efforts and resources are combined by stakeholders for very meaningful programmes and activities to be carried out ;
- It would reduce the burden on MOFA and increase the efficiency and effectiveness in addressing the needs of fish processors since there would be co-ordinated support from NGOs and, Training and Research Institutions ;
- A linkage of this nature would make implementation, monitoring and evaluation of programmes to fish processors easier for the stakeholders ;
- Many FLSs would visit fish processors since there would be defined programmes supported with inputs for fish processors ;
- It would emphasise gender awareness in all programmes by addressing all gender-sensitive issues before programmes move from the grips of WIAD to the FLSs for propagation ;
- It would make monitoring, evaluation and assessment of extension impact on fish
- processors more effective ;

34 Based on the findings, the following conclusions are evident :

35 The fish processing enterprise in the Central Region is ageing and not attracting the young literate generation who may have the capacity to manage things better. The majority of the women were poor and have a great responsibility of catering for a large number of dependants. This is consistent with C.T. Uwakah, A.C. Uwaegbute, and M.C. Madukwe (1991) who also made similar observation when they investigate the role of rural women as farmers in Eastern Nigeria.

36 The results of the investigation showed that agricultural extension services had failed to take into account the important role that women in fish processing play in agriculture in the Central Region. If the notion still remains that the extent to which a farmer is aware of and in contact with, extension agent is a general indicator of the level of success of the farmer, then the fish processing industry in the Central Region is not performing satisfactorily. The extension work with fish processors in the Region has not been effective. It was noticed that the Departments of MOFA responsible to cater for the training needs of the fishing industry lack the necessary manpower, materials and financial supports to efficiently and effectively execute their programmes.

37 Fish processors in the Central Region prefer the combination of demonstration and discussion as ideal teaching- learning method for their interactions with extension agents. Fish processors in the Central Region of Ghana are more likely to give audience and participate in extension programmes on Tuesdays between 10am-12noon.

38 8ased on the findings of the study the following recommendations can be made :

- The role of the extension services with respect to fish processing needs to be strengthened if an appropriate transfer of technology or innovation is to be achieved ;
- In strengthening the transfer of technological information to traditional fishermen and fish processors, the role of the existing power structure should be taken into account. It took chief fishermen, their wives and opinion leaders within the communities to organise the fish processors for the group discussions ;
- MOFA should as a matter of policy, place a specialist WIAD representative (Development Officer) at every district to co-ordinate all agricultural activities biased towards women ;
- If the women can organise themselves into groups, such as co-operatives societies, their problems would become more manageable because extension agents can more easily provide them with useful information and advice. Fish processors should be encouraged by FLSs to join existing co-operatives or form new ones that could qualify them to receive assistance from government and commercial banks ;
- It is very important that fish processors in the Central Region are given access to capital to enable them to take advantage of the new developments in fish processing. Until now many fish processors are not using the Chorkor smoker processing technology because of its relatively higher initial capital requirement. A revolving loan scheme could be established by District Assemblies in the coastal districts to grant small seasonal loans in cash or kind (eg. wire mesh) to needy fish processors if the industry is to be salvaged and make it more attractive to the coming generation ;
- The District Assemblies, with backing from government, should institute strict measures to curb the activities of fishermen who use dynamites in fishing ;
- The proposed conceptual model put forward should be adopted to ensure effective and efficient transfer of extension information to women in agro-processing in general ;

BIBLIOGRAPHY

Adam I., 1995."An Overview of the Agricultural Sector". An issue paper presented at the Agricultural Workshop at Cape Coast, Ghana.

FAO 1993. "Agricultural Extension and Farm Women in the 1980 ;". Rome.

Hossain M. and **Afsar R.**, 1989. "Credit for Women's Involvement in Economic Activities in Rural Bangladesh". *Bis Research Report,* n° 105, Institute of Development Studies, Dhaka Bangladesh.

Mensah M., 1997. "E.U. Provides Funds For Fisheries Development". *Daily Graphic,* February 6, n° 14361.

Okafor F.C., **Okeen E.C.**, **Ume T.A.**, **Mereni J.I**,. 1989. *Administration of Adult Education.* Pacific Publishers, Nigeria. Population Census Data 1984. Ghana.

Saito K.A, **Weidemann C.J.**, 1990. *Agricultural Extension for Women Farmers in Africa.* World Bank Policy, Research and Extension Affairs, Working Paper, Washington DC.

Uwakah C.T., **Uwaegbute A.C**, **Madukwe M.C.**, 1991. "The Role of Women as Farmers in Eastern Nigeria". In Chery R.D. and Olson C. (eds), *African Rural Social Sciences Research Networks : Issues in African Rural Development.* Winrock International. Institute for Agricultural Development.